

What is claimed is:

1 1. A zoom lens comprising: a first lens group having a negative refractive power as a
2 whole, a second lens group having a negative refractive power as a whole, and a third lens group
3 having a positive refractive power as a whole, arranged in said order from object side to image
4 side, for zooming from a wide-angle end to a telephoto end by means of moving said third lens
5 group from image plane side to objection side as well as for correcting image plane changes
6 required in accordance with said zooming by moving said second lens group; wherein

7 said first lens group consists of a lens having a negative refractive power and a prism for
8 changing a light path arranged in said order from the object side.

1 2. A zoom lens claimed in claim 1 wherein,
2 said second lens group consists of a lens having a negative refractive power; and an aperture stop is
3 provided between said second lens group and said third lens group.

1 3. A zoom lens claimed in claim 1 wherein,
2 said first lens group's lens has an aspherical surface.

1 4. A zoom lens claimed in claim 3 wherein,
2 said aspherical surface is formed on a surface with a smaller curvature radius.

1 5. A zoom lens claimed in claim 4 wherein,

2 said aspherical surface is formed to have a weaker negative refractive power weakening toward its
3 periphery.

1 6. A zoom lens claimed in claim 1 wherein,
2 said third lens group has at least one lens with a positive refractive power and at least one lens with
3 a negative refractive power.

1 7. A zoom lens claimed in claim 6 wherein,
2 said third lens group has a lens at a position closest to the object having a positive
3 refractive power and an aspherical surface at least on one side.

1 8. A zoom lens claimed in claim 1 wherein,
2 the prism of said first lens group is formed to have an entrance surface and an exit surface both
3 oblong in a direction perpendicular to a plane that includes an entrance axis and an exit axis.

1 9. A zoom lens claimed in claim 1 that satisfies the following equations (1) and (2):

2 (1) $0.25 < |f_w/f_1| < 0.7$,

3 (2) $v_1 > 40$,

4 where f_1 : focal length of the first lens group,

5 f_w : focal length of the total lens system at the wide-angle end, and

6 v_1 : Abbe number of the first lens group's lens.

1 10. A zoom lens claimed in claim 1 that satisfies the following equation (3):

2 (3) $0.1 < f_3/|f_2| < 0.8$,

3 where f_2 : focal length of the second lens group, and

4 f_3 : focal length of the third lens group.

1 11. A zoom lens claimed in claim 2 wherein, said first lens group's lens has an
2 aspherical surface.

1 12. A zoom lens claimed in claim 2 wherein,
2 said third lens group has at least one lens with a positive refractive power and at least one lens with
3 a negative refractive power.

1 13. A zoom lens claimed in claim 3 wherein,
2 said third lens group has at least one lens with a positive refractive power and at least one lens with
3 a negative refractive power.

1 14. A zoom lens claimed in claim 2 wherein,
2 the prism of said first lens group is formed to have an entrance surface and an exit surface both
3 oblong in a direction perpendicular to a plane that includes an entrance axis and an exit axis.

1 15. A zoom lens claimed in claim 3 wherein,

2 the prism of said first lens group is formed to have an entrance surface and an exit surface both
3 oblong in a direction perpendicular to a plane that includes an entrance axis and an exit axis.

1 16. A zoom lens claimed in claim 2 that satisfies the following equations (1) and (2):

2 (1) $0.25 < |f_w/f_1| < 0.7$,

3 (2) $v_1 > 40$,

4 where f_1 : focal length of the first lens group,

5 f_w : focal length of the total lens system at the wide-angle end, and

6 v_1 : Abbe number of the first lens group's lens.

1 17. A zoom lens claimed in claim 3 that satisfies the following equations (1) and (2):

2 (1) $0.25 < |f_w/f_1| < 0.7$,

3 (2) $v_1 > 40$,

4 where f_1 : focal length of the first lens group,

5 f_w : focal length of the total lens system at the wide-angle end, and

6 v_1 : Abbe number of the first lens group's lens.

1 18. A zoom lens claimed in claim 2 that satisfies the following equation (3):

2 (3) $0.1 < f_3/|f_2| < 0.8$,

3 where f_2 : focal length of the second lens group, and

4 f_3 : focal length of the third lens group.

1 19. A zoom lens claimed in claim 3 that satisfies the following equation (3):

2 (3) $0.1 < f_3/|f_2| < 0.8,$

3 where f_2 : focal length of the second lens group, and

4 f_3 : focal length of the third lens group.

1 20. A zoom lens claimed in claim 9 that satisfies the following equation (3):

2 (3) $0.1 < f_3/|f_2| < 0.8,$

3 where f_2 : focal length of the second lens group, and

4 f_3 : focal length of the third lens group.

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